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Sustainability takes root at SJSU

University turns focus to efficiency

MATTHEW SANTOLLA

Copy Editor

The director of sustainability's vision for SJSU is to be recognized as a center of expertise in sustainability.

Katherine Cushing, who was appointed to the job in 2009, said her role is to oversee sustainability activities in curriculum, research, facilities and community partnerships.

"Sustainability means meeting the needs of the present generation without compromising the ability of future generations to meet their own needs," Cushing said.

SJSU is trying to be more a more sustainable institution by focusing on the three "E's" of efficiency, Cushing said.

Cushing said the three "E's" of efficiency are: environmental protection and enhancement, economic development and social equity.

Environmental protection and enhancement focuses on clean air, clean water and not generating so much waste, Cushing said.

Economic development and sustainability relates to the jobs generated by green energy, Cushing said.

Social equity focuses on the impact industrialized nations have on underdeveloped countries.

Cushing said the e-waste (electronic waste) generated by larger countries can negatively impact the environment in other parts of the world.

According to the White House website, the country exports billions of dollars each year to import energy into the country.

The American Recovery and Reinvestment Act included more than \$80 billion to expand manufacturing capacity for renewable energy sources and to expand manufacturing capacity for clean energy technology, according to the White House website.

Cushing said since her time as sustainability director, she has seen the university take many steps toward sustainability.

A major initiative at SJSU was last year's Ecological Footprint Challenge, Cushing said.

The goal of the program was to educate everybody on campus on how much arable land is required to support their lifestyles and to encourage them to reduce their ecological footprints by 10 percent over the course of the last academic year, Cushing said.

"I think it went well," she said. "We had over 2,700 people participate (mostly students). We found out that the average ecological footprint for somebody at San Jose State is about two-thirds the national average."

The average American has an ecological footprint of 9.0 global hectares (23 acres) — the size of 17½ American football fields, according to the Global Footprint Network website.

If everyone on Earth lived like an American, we would require the resources of five planets, according to the same website.

President Obama signed an executive order on federal sustainability, which commits the federal government to lead by example in an effort to reduce greenhouse emissions by 28 percent by 2020, according to the White House website.

Cushing said she has organized several sustainability workshops and lectures on campus to educate students.

"Last year we organized about 10 lectures and workshops on topics ranging from the urban water cycle to sustainable food systems," she said.

Cushing said she heard a lot of positive feedback from students after they attended the lectures and workshops.

"One of the goals we have is to ensure our graduates are sustainability literate and they have the capacity to act at the local and global level to promote sustainability," she said.

Cushing said she encourages all students and faculty on campus to learn more about sustainability.

"I think it would be great if all of our graduates understood some of the most basic facts about the most pressing issues facing society today — like climate change," Cushing said.

She said she has been working on documenting sustainability courses and degree programs.

Cushing said the sustainability initiative taken by the university can have a positive financial impact.

"For example, we are switching over most of the irrigation on the main campus to recycled water," Cushing said. "Recycled water costs about 50 percent of what potable water costs."

Cushing said even though SJSU has to invest money to change pipes or convert valves, the school will save money over time.

Cushing also said SJSU recently went through a series of lighting retrofits, an effort which made the campus more sustainable and saved the university money.

"I think they saved us over \$1.6 million over the past several years," Cushing said. "So there is definitely energy savings to be had by engaging in these kinds of activities."

"Silicon Valley is kind of the heart of so many clean development and technologies being worked on right now," Cushing said.

The Green Economy Initiative, by the United Nations, exists to assist governments in "greening" their economies by refocusing policies and redirecting investments into clean technology, according to the U.N. website.

Cushing said SJSU is focusing on finding ways to be a part of this emerging industry.

According to the U.N. website, the world is headed toward green economies, can create large amounts of green jobs across many sectors of economies and can fuel growth.

"I feel it will be a natural fit for San Jose State to be a part of this emerging green economy," Cushing said.

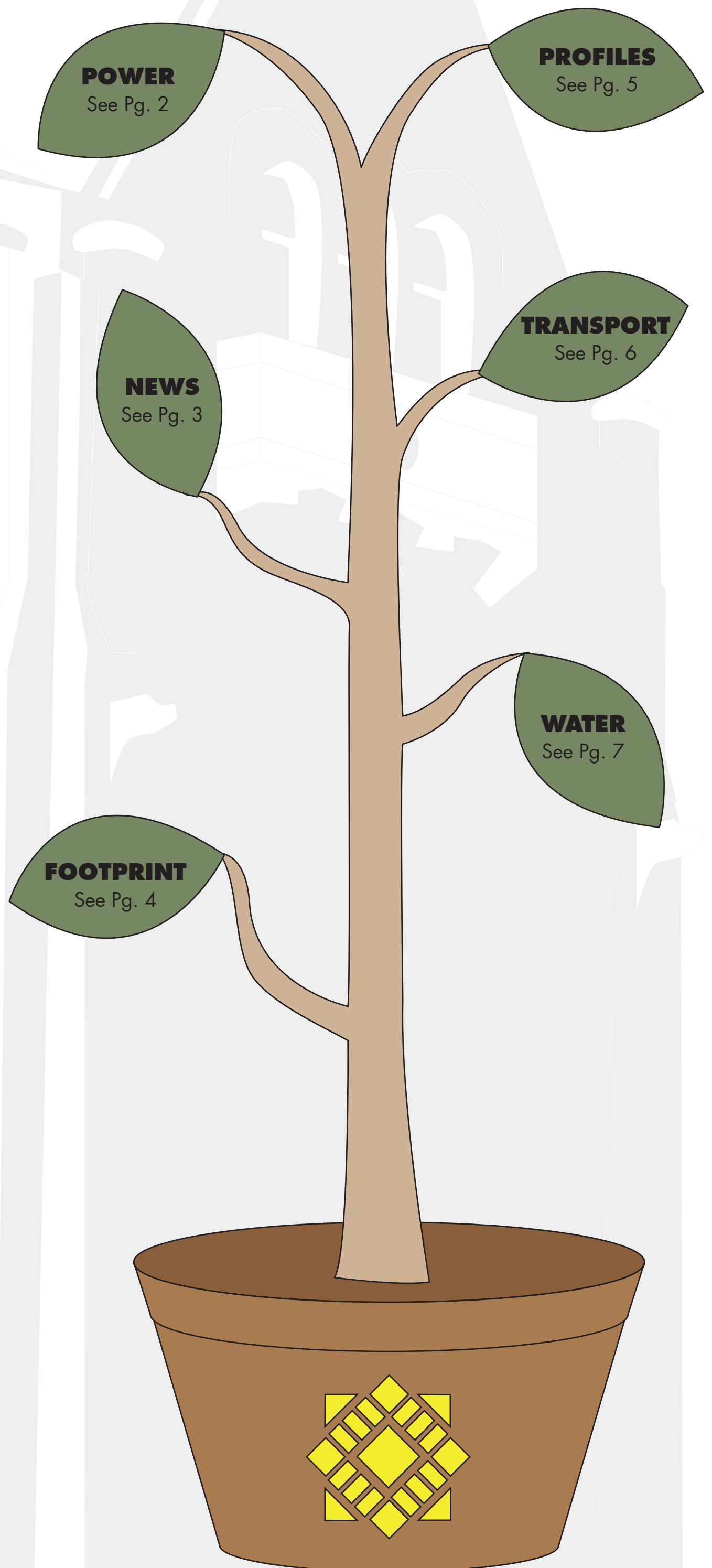


ILLUSTRATION: RACHEL PETERSON | SPARTAN DAILY

Professor considers solar energy at SJSU

KELSEY HILARIO &
KELSEY LYNNE LESTER-PERRY
Staff Writers

A mechanical engineering professor said he thinks SJSU is getting close to a point where solar power might be a realistic alternative to powering the campus.

Mechanical engineering professor James Mokri said he has been involved in the process of researching photovoltaics, or solar panels, and its impact on SJSU for a long time.

Mary Panchenko, a sophomore international business major, said she wished she knew more about solar panels.

"We should utilize what is free, like sunlight," she said. "But when does it start paying for itself?"

Senior nursing major Lauren Powell said she thinks getting energy from solar panels is a good thing.

"My mom used them to heat water at her house in Santa Cruz," she said. "It saved her money and did something for the planet at the same time. On campus it's a good way to save money and lower tuition."

Curtis Fox, a junior chemical engineering major, said solar panels are too expensive and they haven't developed enough efficiency yet to be a viable energy alternative.

"They do pay for themselves in four to six years," he said. "And if they were to charge us, it's like we wouldn't see the results. Panels on walls are a new development and it's cheaper. It's a bummer though because we wouldn't get to benefit from it."

According to the mechanical and aerospace engineering website for SJSU, students from two solar engineering classes recently completed a \$10,000 contract with the City of San Jose on a project that consisted of evaluating



Engineering Lecturer James Mokri demonstrates the reflective power of a student-built solar panel on the Engineering building's second floor Wednesday.

PHOTO: JACK BARNWELL | SPARTAN DAILY

The group has done a number of these projects for the city of San Jose, he said.

Some of the donations for the projects have come from Sunpower and a company called Inphase for a photovoltaic panel and the other is an inverter, he said.

"We have evaluated parking structures and last September for the Student Union we evaluated the PV system and we evaluated the library also," he said. "We have had student projects going on for several years."

"We have a central plant here at San Jose State that makes electricity, by the business building," he said. "It is a big power plant and they take natural gas, just like a jet engine, a gas turbine engine, it's called, and it runs a generator to make electricity and the excess heat. The exhaust from the engine is used to cool the building."

"(Solar panels) are an expensive system, but we spend a lot of money on electricity now," Mokri said.

Mokri said when Clark Hall was built in 1984 they had a big system that was part of the heating — a solar thermal heating system and it's been there for a long time.

"The maintenance people here did not know how to keep it tuned up, was one story I heard," he said. "But it deteriorated and is not used anymore, but the panels are still there. We did a study a couple years ago to see if we could re-commission it. We did the cost evaluation and it is too expensive to repair it. It was built too early."

William Shum, FD&O director of planning design and construction, said the new building that will replace building BB will be built to house solar panels.

He said it is undetermined at this point whether the building plans will include the solar panels, or whether they will be added at a later date.

26 city fire stations, selecting five stations and completing a detailed feasibility analysis for each station.

The assessment done on the fire stations determined that solar water heating systems are technically feasible and cost-effective with better than a 5 percent return on investment.

Mokri was an adviser for this project, according to the website.

Projects such as the thermal project, the fire station project and the solar lab are experiments that may help conclude what form of solar power would be a viable option for the campus, Mokri said.

"There were about 12 students on the list

that worked on it for most of the semester," he said. "First we were given data by the city for 32 fire stations then we looked at Google earth pictures, satellite imagery and the water-heating bills and how many personnel are stationed at the station."

The first application is commercially viable now and is found in swimming and heats the water by means of solar power.

"Fire stations are a good start," he said. "So we did this report and evaluated five stations. This was for an engineering study meant to evaluate the pros and cons and that is all we were obligated to do. Now it is up to the city to decide to go forward or not."

Cogeneration plant helps power university

KENNY MARTIN &
ALEX SPICER
Staff Writers

SJSU uses a cogeneration plant to provide the campus with the commodities it requires to run smoothly every day. The plant is located between Campus Village and the Boccardo Business Complex, said an official from Facilities Development and Operations.

Added onto the existing central plant in 1985, the cogeneration plant powers everything within the boundaries of SJSU, energy analyst Jared Isaacson said.

"It's also called combined heat and power, so it's producing two things: electricity and heat," Isaacson said.

The cogeneration plant alone produces 36 million kilowatt hours of power every year at a cost of \$12 million, he said.

Adam Bayer, director of utilities, maintenance and operations, said the power the plant produces is equivalent to what is needed to power 3,000 single-family houses for a whole year.

In addition to electricity, the cogeneration plant supplies SJSU with steam and chilled water, Isaacson said.

"We're always using the steam," Isaacson said. "In addition, that steam can be used in absorption chillers, so it can take that extra steam that we're not using in the summer especially, and it runs through a process in the absorption chillers and it can create cold water."

A lot of water is used in the process, he said.

"As it is going through the system, it eventually can't be used because the chemistry gets changed a little bit," he said. "So it's going to be blown down to the sewer, so we do use a lot of water."

Annually, the cogeneration plant uses 40 million gallons of potable and recycled water combined, Isaacson said.

Isaacson said it is standard for large institutions such as hospitals or college campuses to have cogeneration plants.

The backup diesel generators on campus are not used frequently because they are harmful to the environment and not cost-effective, he said.

Compared with conventional power plants (like PG&E) that work at 15-20 percent efficiency, SJSU's cogeneration plant works at 40-60 percent efficiency, Bayer said.

Efficiency refers to the amount of steam that is cap-

tured to power other parts of the plant.

"It's also a big cost-saver — that's one of the motivations for having it," Isaacson said. "We estimate that if we didn't run the cogeneration, and we just ran these boilers, which are less efficient for our steam needs, and took all of the power we needed from PG&E to run the campus, it would cost us somewhere about a million dollars more per year to do that."

Isaacson said that power plants are generally spread out throughout the countryside far away and it takes hundreds of miles of transmission lines to get the power to the its destination.

"Here, what we've done is rather than pushing power across power lines where there's losses," he said. "... We have distributed generation, so we're on-site, you're pushing the power just a few hundred yards and you don't have as many line losses."

However, because it is natural gas combustion there are some emissions of greenhouse gasses, particularly carbon dioxide, he said.

Overall, Isaacson said the cogeneration plant is clean and causes minimal damage to the environment.



Jared Isaacson, an energy analyst for SJSU, points out a high voltage power box inside the cogeneration power plant at SJSU.

PHOTO: FRANCISCO RENDON | CONTRIBUTOR

The plant uses 40 million gallons combined of potable water and recycled water every year.

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Student dies after fall from 10th Street garage

TYLER DO & JORDAN LIFFENGREN
Staff Writers

At 7:15 a.m. Wednesday, a 23-year-old male student was found dead in front of the 10th Street garage, according to a UPD press release.

"We received a report of an unattended death at the 10th Street garage," said Pat Lopes Harris, media relations director for SJSU. "Unattended death means there were no witnesses present at time of death."

The student's family has been notified of the incident, according to a UPD press release.

"It's just really daunting, I had a

7:30 class so I came to school and I normally park on the side of the stairwells and it was blocked off," said Jessica Park, a senior marketing major. "I thought the elevator was broken and I heard all these cop cars."

She said she is thankful she didn't see the body or blood at the scene, but she said she was able to see the body being covered by sheets from paramedics.

Harris said the Santa Clara County Medical Examiner-Coroner's Office has yet to disclose any information regarding the body.

"No cause of death has been determined," she said.

"It's unfortunate that it happened, but I am assuming it wasn't

an accident because it would be quite a fluke," said Chloe Meza, a senior human resource major.

She suggests the university raise the guardrail and take further action to prevent this from ever happening again, because she said it has occurred in the past.

The southwest corner of the garage was blocked off for a couple of hours after the incident, Harris said, and students and staff were restricted from entering the parking structure to avoid contamination of evidence.

"UPD officials, San Jose Fire Department and paramedics arrived at 7:18 a.m.," said Sgt. John Laws of the University Police Department Ad-



Police officers investigate the scene at 9 a.m. Wednesday in the stairwell of 10th Street garage.

ERIC VAN SUSTEREN | SPARTAN DAILY

ministrative Services Division.

Laws said a man fell from one of the top floors of the 10th Street garage and was declared dead by paramedics at approximately 7:20 a.m.

The case is currently being investigated as a suicide and has been turned over to the Santa Clara Coun-

ty Medical Examiner-Coroner's Office, according to a UPD press release.

Harris said the UPD will be open to any information regarding the death.

"We always want students to know there is counseling services 24/7," she said.

Campus breaks ground on new Student Union



SJSU staff and students shovel the ceremonial first pile of dirt signifying the start of construction on the new Student Union.

PHOTO: JACK BARNWELL | SPARTAN DAILY

ALEX SPICER
Staff Writer

Several hundred students were in attendance for the new Student Union's groundbreaking ceremony that took place at noon Wednesday at the Paseo de Cesar Chavez.

Those at the celebration were provided with free cake, beverages, T-shirts and musical entertainment by "So Timeless," a local band whose members include SJSU alumni.

Those involved in the ceremony included Interim President Don Kassing, Larry Carr, the associate vice president for public affairs, and Associated Students President Tomasz Kolodziejak.

The ceremony began with speeches by Kassing, Kolodziejak and others before proceeding to the cleared area where the old Cafeteria building used to stand.

Key people involved in the development process

of the new Student Union then scooped dirt into a pile to signify the beginning of construction on the new facility.

Carr said it was important for the campus to be able to celebrate such a significant moment in its history.

"The ceremony recognizes what SJSU has become," he said. "People want to be here."

The new Student Union reflects the on-campus culture at SJSU, and provides

students with services and operation around the clock, Carr said.

Raelene Jimenez, a junior occupational therapy major, said she thought the ceremony was a success.

"There's a lot of people around," she said. "They already did everything and they're just watching, hanging out and it really brings the community together. It shows that we're all in this together, and it's the building of a new generation."

Jimenez said she was excited about the new Student Union.

"I heard what the blueprints look like and it looks

like it will be well worth the money, and I believe we spent a lot of money on this," she said.

Kassing said the new Student Union will compliment the other new buildings on campus, such as the Dr. Martin Luther King Jr. Library and Campus Village, all while providing support and a sense of community among students.

Michael Kaufman, a physics and astronomy professor, said the new Student Union will bring students together academically like never before.

Kaufman cited the difference in work quality be-

tween groups of students who live on campus and those who live off campus, and that the around-the-clock operations of the new Student Union will greatly benefit students living on campus.

According to an SJSU news release, the 235,000-square-foot facility will be completed in 2013 and will cost \$90 million to construct.

The new Student Union is designed to centralize student organizations and services, and will feature a food court, coffee house, print shop and a computer center, according to the news release.

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Remembering a professor’s green legacy

ISIAH GUZMAN
Staff Writer

As a protector of the environment, Frank Schiavo was known for his efforts to leave the planet with as few marks as possible.

People who knew him, however, say he left quite a few.

Over his 30 years teaching in SJSU’s environmental studies department, Schiavo taught thousands of students to make environmental change and at times even invited them to his passive solar home for dinners.

“To me, he was the best teacher in the world,” said Anna Le, a former student of Schiavo and a graduate student in environmental studies. “He would always make you feel like you belonged somewhere. Even people who didn’t believe in the environment, he would somehow convince them.”

Schiavo, who was featured on CNN and in the San Jose Mercury News, died in January at the age of 70.

He was dubbed “The Messiah of the Environment” for pushing sustainability and green practices at a time when being green wasn’t popular, according to the Californians Against Waste website.

He gained recognition for producing no trash — he bought only recyclable materials and composted everything else — and for his fight with the City of San Jose when he refused to pay a garbage bill because he did not produce any trash, according to the website San Jose Green Home.

Schiavo left his real legacy with his students, said Lynne Trulio, the environmental studies department chair.

“A lot of the people he educated are out there now making decisions and trying to bring sustainability to our region,” she said.

Trulio called Schiavo “an incredible example to all of us, especially the students,” whom she said he stayed in contact with after they graduated.

In fact, after his death, more

than 190 people wrote remembrances of him on the website Legacy.com.

“Protecting the environment was part of his core,” she said. “Protecting people was part of that. He didn’t separate people from the environment.”

Le said Schiavo is the reason she wants to become a college professor.

After taking his class, she said she decided to switch her major from computer science to environmental studies and come back for her master’s degree.

“I switched because I felt like I could make a difference,” Le said.

The SJSU environmental studies program has been around for 40 years and was one of the first such programs in the nation, Trulio said.

It offers 60 courses, she said.

Schiavo helped shape the department in its early years, Trulio said.

“He was a huge local environmental hero,” she said. “He

was largely recognized as San Jose’s environmental guru.”

Currently, the department is growing, Trulio said, despite the declining number of students at SJSU.

SJSU also has the only Master of Science degree in environmental studies in the region, Trulio said.

“A lot of our master’s students are out there in the region as well,” she said.

Next semester, Trulio said more than 150 environmental studies students will take part in a project called “Green Wave,” collaborating with the City of San Jose to conduct an audit of SJSU energy use.

“It educates students, gives them a skill, but also it’s designed to give us information,” she said.

Though programs like “Green Wave” continue to grow the department, it sounds as though it won’t likely find another Schiavo.

“He was a master teacher,” Trulio said. “There was no one who could touch him.”



Frank Schiavo, a professor at SJSU for 30 years, pioneered environmental activism on campus.

PHOTO: SPARTAN DAILY ARCHIVE

Student center tackles environmental issues

JAIMIE COLLINS
Staff Writer

Aiming to create a more sustainable campus, SJSU’s Environmental Resource Center is a student-run nonprofit organization working in conjunction with the department of environmental studies to raise environmental awareness on campus, according to the center’s co-director.

“The ERC hosts sustainable events geared toward environmentally conscious choices for students and faculty to consider,” William Wilson said. “It is a great way to get involved in campuswide sustainability efforts.”

Established in 1967, the ERC is also known as Environmental Studies 181, a course in which students can earn units while they organize and host environmentally friendly events on campus, Wilson said.

“The ERC is an organization that is constantly growing as environmental issues become more prominent,” he said. “With the class being student run, it is a unique organization.”

The class is similar to other courses on campus such as the school radio station or newspaper that students can join and contribute to, except the class has no prerequisites, tests or quizzes, according to Loren Lewis, the sustainability project coordinator for the Office of the President.

Students who are involved participate in practical environmental activism, he said, working in small, self-directed groups on projects while energizing the members of the campus community to make positive changes in their own lives.

“It’s student run so you have students teaching students, which provides all involved with another level of training and engagement,” Lewis said. “Also, most of their events — if not all — are centered around community outreach and participation, giving the campus an outlet for personal and public environmental activism.”

Matthew Truong, a junior electrical engineering major, said he thinks it’s important that students are aiming to make a positive change on the environment.

“Some of the biggest issues we are facing center around global warming and arguments about the state of the environment,” he said. “As the next generation, we have to take steps to try to erase the damage and improve our surroundings.”

This semester the ERC is co-directed by Wilson and Candice Carbonell, who are both senior environmental studies majors previously enrolled in the class and were motivated to lead the organization after the previous directors stepped down.

“SJSU needs to catch up with other college campuses as far as sustainability,” Carbonell said. “The class is fun, active and geared toward saving our planet.”

To serve the student body, the ERC participates in a variety of ongoing environmental activities and projects while encouraging the campus community to become more sustainable in its use of water, energy and material consumption, she said.

“SJSU has some steps to take in the direction of sustainability and we want to help make and see those steps happen,” Carbonell said.

Over the years, the ERC has hosted a variety of events including composting workshops, bike to school days and discussion panels on environmental issues such as transportation, energy and waste management, Wilson said.

Recently, the ERC began the urban farm nonprofit organization called Veggielution, created an on-campus recycling program and made an effort to replace the ivy on Tower Hall with native landscaping to bring back the natural habitat, co-director Carbonell said.

Since the ERC roster changes every semester, Wilson said there isn’t yet a schedule of events the class will host in the spring but said there will definitely be a week’s worth of Earth Day events in April.

Lewis said the ERC has formed a group within the last year to work alongside the Office of the President’s sustainability initiative — which is focusing on the Green Wave this year — to increase environmental awareness on campus.

“Events like the ones mentioned help engage our campus community and give them opportunities to learn about problems and participate in solutions with respect to issues like global climate change, the frailty of our water supplies, social equity and others,” he said.

Advised by environmental studies Professor Lynne Trulio, Wilson said the ERC is funded

primarily by Associated Students, Transportation Solutions and the department of environmental studies.

Although he was unable to disclose the amount of funding the center receives, Wilson said the center also hosts bake sales and raffles and applies for grants.

“It pretty much changed my life forever and I got my foot in the door for a lot of opportunities that I wouldn’t have otherwise,” Former ERC Director Anna Le said. “I got involved because I love working with other students. Again and again, students surprise me with so much incredible effort and the enthusiasm that is shared.”

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Alternative transportation options for commuters lighten environmental load

REBECCA HENDERSON
Staff Writer

Cars, bicycles, buses and skateboards are some of the many types of transportation used to get to school.

Transportation contributes to one-third of the greenhouse gas emissions in our atmosphere, according to a brochure published by the Valley Transportation Authority.

Driving solo adds 2.4 tons of CO2 emissions into the atmosphere annually.

Katherine Cushing, the director of sustainability at SJSU, said every mile not traveled helps to slow the effects of climate change.

In the fall of 1994, the Associated Students signed a contract with VTA becoming one of the first sites in Santa Clara Valley to implement a prepaid fare called TAP transit access program, said the manager of Transportation Solutions.

Eyedin Zonobi said A.S. saw an immediate jump in transit ridership at that time, but because not many students were aware of the pass there was a decline a few years later.

They decided to form this transportation management program to not only do intensive marketing and promotions of the university transit pass also to promote more programs and incentives for other forms of transportation such as bicycling or regional transit, such as Highway 17 Express.

Later on in 2003 it was renamed to Eco Pass, Zonobi

said.

Since then results have shown that VTA ridership has steadily increased throughout the years from 18.2 percent in 2003 to 31.5 percent in 2009, a 13.3 percent increase.

Although results show that the number of solo driving has decreased, 40.3 percent continue to drive solo rather than taking VTA.

Cushing said she thinks there are a lot of benefits in using transportation to get to school.

“It’s a lot less stressful,” she said. “You don’t have to look for or pay for parking.”

She said by being able to use VTA to get school you save money by not having to operate and maintain your car.

Cushing said according to AAA the cost of operating your car is \$7,800 per year when you include insurance and the cost of maintenance.

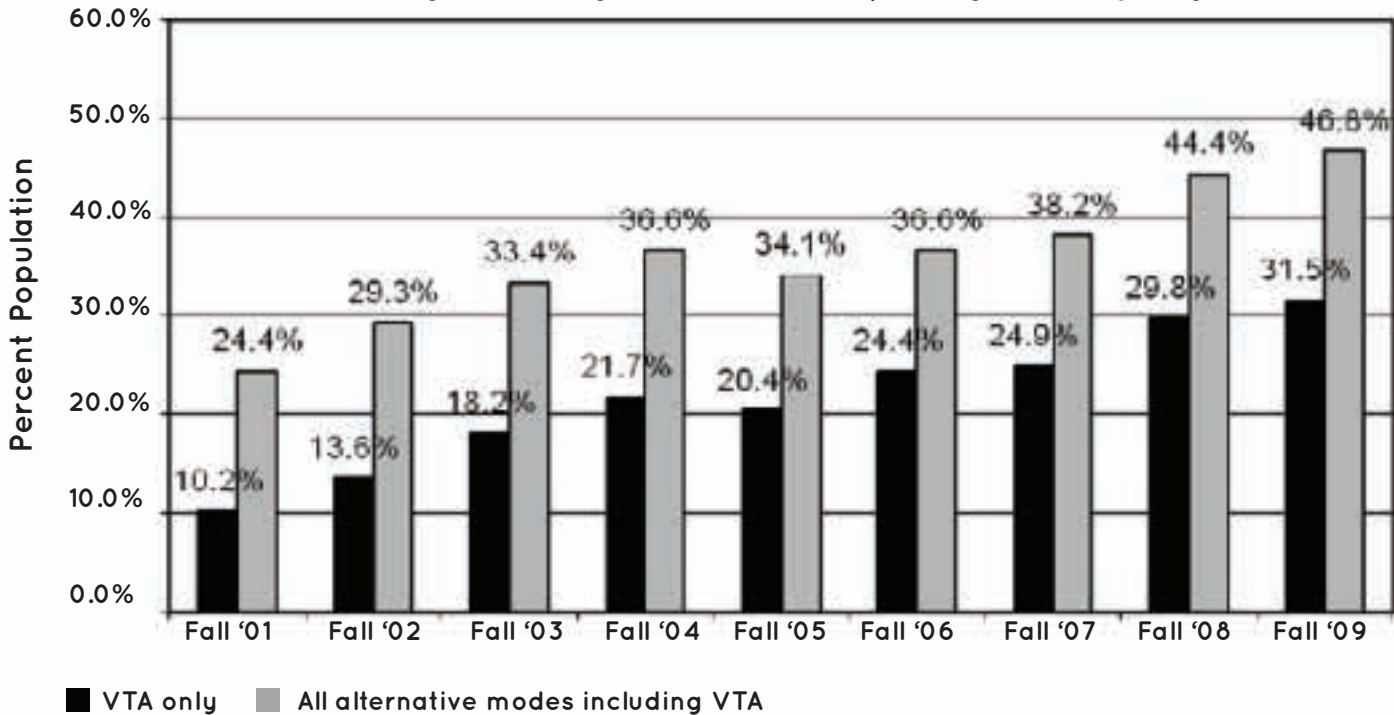
William Wilson, a senior environmental studies major, said students and the community need to educate themselves.

“If you are going to drive and you have errands to run, try to combine all your errands in one trip, he said. “That can save a lot of transportation emissions and it will also save you a lot of money.”

The cost for SJSU students is deeply discounted, said Zonobi.

Each pass covers about six months at \$18 per person a semester, \$36 per person a year. The Eco Pass is an equivalent

Percentage of SJSU student population commuting by alternative transportation (VTA bus and Light Rail, regional transit, carpooling and bicycling)



INFOGRAPHIC: SJSU TRANSPORTATION SOLUTIONS
FALL 2009 COMMUTE SURVEY REPORT

to an adult express, which is \$140 per month and \$1,540 for a year, according to Zonobi.

He said one of the projects transportation solutions is working on alongside Facilities Development and Operation is to retrofit the existing bicycle enclosures because of the big jump in bicycle ridership to campus.

“We will be redesigning the interior and installing more racks, basically to increase capacity by 150 percent,” he said. “Because we see that at peak times the cages are full and we need to accommodate more bicycles. It should be completed by next spring.”

Every third Thursday of

every month there is a ride to school day to encourage the student body to use alternative transportation, Cushing said.

“People who show up on bikes, skateboards or scooters will be provided with free barbecue and free bike tune ups,” Wilson said.

Zonobi said he is working with the San Joaquin Regional Rail Commission to implement a discount pass exclusively for SJSU students and employees.

That’s 50 percent off their monthly pass and 20 percent ride passes to encourage ridership of that train from the Central Valley to here, Zonobi said.

VTA is also doing its part to stay environmentally friendly by implementing a fleet of 90 American-made, low-emissions diesel-electric hybrid buses, according to the VTA website.

“Every time there’s a good

improvement in transit systems whether local or regional transit, we see a jump in ridership,” Zonobi said. “When it becomes more convenient for them they do switch from solo driving to alternative transportation.”

CLASSIFIEDS

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SPARTAN DAILY DELIVERY POSITION.
Student needed 6:30am-8:30am, Monday-Thursday on school days to deliver Spartan Daily to campus newsstands. Must have current driver's license with clean record and be able to pass safe driving online course requirement. Student must be able to lift bundles of newspapers. Living on or near campus and classes after 9:00am essential. Must be on time and dependable. Paid training will be completed before the end of the semester. APPLY NOW! Spartan Daily Business Office, Dwight Bentel Hall Room 203 Mon-Thur 10:00am to 3:00pm.

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No Experience Required
Call 1-800-558-0872

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Deadline:

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Rates:

One classified, 20 words	\$5.50
Each additional word	\$0.39
Center entire ad	\$1.00
Bold first five words	\$0.50

Rates are consecutive days only. All ads are prepaid. No refunds on cancelled ads.

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16-31 classifieds	30% off
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\$\$\$SPERM DONORS WANTED\$\$\$ Earn up to \$1,200.00/ month. Give the gift of family through California Cryobank's donor program. Apply online: SPERMBANK.com

Earn \$8.00-\$30.00 per hour. We need 5 people to fill in on weeknights and weekends. Contact wordwizard95112@yahoo.com.

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15 days \$25.00

SUDOKU

	9		4			3		5
			2				7	
		8		9	1		5	
6						9		
	3	2		8				
	4	7	6					8
				1			6	
8	2			4		3	1	

Previous Solution

1	8	4	5	6	3	7	2	9
6	5	7	1	9	2	4	8	3
9	3	2	8	7	4	1	5	6
5	1	8	4	3	7	9	6	2
7	4	6	2	8	9	5	3	1
2	9	3	6	5	1	8	7	4
3	6	9	7	4	5	2	1	8
4	2	5	3	1	8	6	9	7
8	7	1	9	2	6	3	4	5

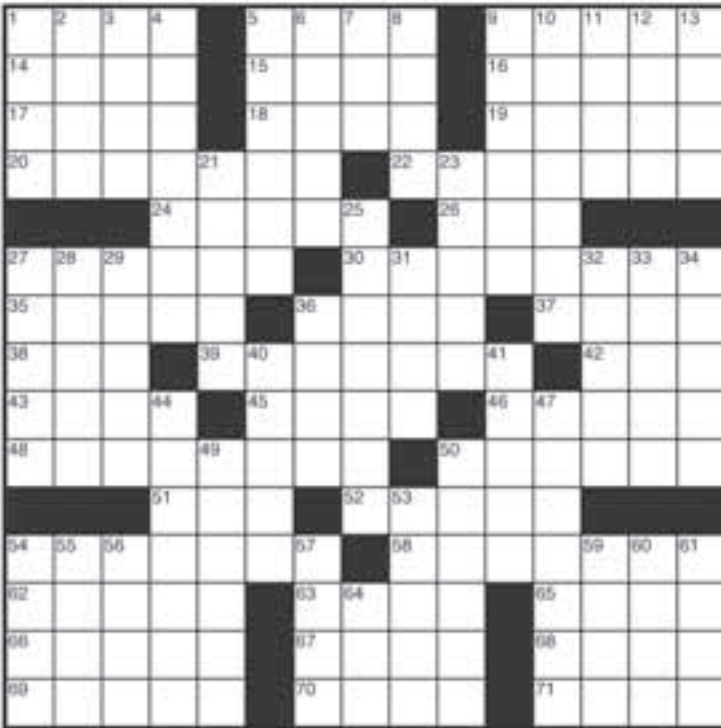
Crossword Puzzle

ACROSS

- Cats or turkeys
- Morning moistures
- Botanist's study
- Estrada or Satie
- Med. school subject
- Fraught
- Count on
- Vitamin starter
- "Lusitania" sinker (hyph.)
- Race car feature (2 wds.)
- Slows down
- Famed fabulist
- Topaz or emerald
- Acela Express offerer
- Ruthless tactics
- Skulks about
- "Zara" composer
- Out on the briny
- Shout
- Despots
- Overly glib
- Tobacco kiln
- River in France
- Potato nosh
- Pilot's concern
- Spaghetti toppings
- Voight of films
- Alluvial fan
- Relieve
- Come back in
- Soft drinks
- Queue
- Highway marker
- Lama's melody
- Thin cut
- Joule fractions

DOWN

- Hi or AK, once
- Popular cookie
- Factory
- Meadow bird
- Table linen, often
- January in Acapulco
- Humorist
- Milky Way unit
- Crimped, as a piecrust
- Ritchie Valens tune (2 wds.)
- Nose stimulus
- Learn about
- Hill builders
- Wild animal
- Marsh stalker
- Worded
- Aluminum company
- Fresco
- Secret meeting
- Actress Bancroft
- Meat jelly
- Auto option
- Slats
- Bone-dry
- Teenage
- Large aquarium fish
- Border town
- Subtle differences
- Browns
- Icy downpours



- Pyle or Kovacs
- No. cruncher
- Carnaby Street locale
- Dross
- Joy Adamson lioness
- Pamplona runner
- Cal Tech grad
- Stop working
- Not well

Previous Solution

FUSE	VASE	UNCLE
ENOL	EVIL	LEAPS
THUMB	TACK	YARNS
EIS	LOIS	ESTES
SPANIEL	CASE	
UPS	LITERAL	
POSTS	WAVES	AUF
AMOS	BASIN	OHIO
LIP	RIGEL	PASSE
THEATER	PIT	
APTS	MONSTER	
RASPY	LOOT	OLE
CURIO	DOG	PADDLE
OSIER	AGUE	ODES
START	HELD	DYNE

Wells under SJSU feed campus water needs

CALLI PEREZ
Staff Writer

From July 1, 2009, to June 30, 2010, SJSU's campus used 142 million gallons of water — approximately 215 Olympic-size swimming pools, according to Jared Isaacson, an energy analyst with Facilities Development and Operations.

This amount does not include water distributed to South Campus, the Aquatic Center and the Event Center, Isaacson said.

Where do these 142 million-plus gallons of water come from?

"San Jose State operates its own well and water distribution system," Isaacson said. "So the well is a primary source of water for campus. We pump the water from the ground here on-site, treat it and distribute it to the campus."

He said the well has been on-site for decades, but for security purposes he cannot share its current location.

"There was another well across campus during the '40s and '50s," Isaacson said. "There is another well on South Campus as well."

He said the Aquatic Center and Event Center's water is distributed through San Jose Water Company.

"So the 142 million gallons from the main campus well, that covers pretty much every building on campus — all the academic administrative buildings, so all the water used there, all the dorms and all the food service," Isaacson said.

He said an important factor is that SJSU has a backup with the San Jose Water Company, separate from the well.

"If the well were to ever go down, we are online with San Jose Water Company like that," Isaacson said. "We have three main connections with San Jose Water Company and that will go on to our distribution system."

He said the well was down for a period of time a couple of years ago.

"It is a cost savings to operate the well," Isaacson said. "We do pay for the water we draw though."

He said the aquifer — a body of permeable rock that can contain or transmit groundwater — and all water resources are managed by the Santa Clara Valley Water District and they each have a pump fee for the water SJSU takes out of the ground.

"It is less than San Jose Water Company because San Jose Water Company also pays that fee to the Santa Clara Water District because they have wells as well," Isaacson said.

He said there is an additional amount of water used at the Aquatic and Event Centers.

"They don't ever drain the pool and refill it," he said. "That doesn't really happen, so it is not like they use a lot of water at the pool. They use water in the Event Center for locker rooms, but it is not too great."

Isaacson said the biggest single water user would be academic buildings because there are so many of them, and then after that there is housing.

"In addition to the 142 million gallons, the central plant cooling towers for our cooling system uses recycled water and that uses about 20 million gallons per year," he said.

This is recycled water, which is through South Bay Water Recycling, a program from the City of San Jose, Isaacson said.

"That is basically wastewater that flows through the San Jose/Santa Clara Water Pollution Control Plant and then goes through a tertiary treatment process," he said. "It is very clean and it comes back through what is called purple pipes and is delivered to the customers."

Isaacson said SJSU also uses 20 million gallons of recycled water per year on South Campus to irrigate athletic fields.

"South Campus also has a well, but it is only about 2 to 3 million gallons per year and that serves the stadiums and other buildings their drinking water," he said.

Conservation Projects

"That 142 million gallons, that is going to be decreasing," Isaacson said. "We have a lot of plans to decrease that water consumption."

A senior psychology major Evelyn Shieh said she finds importance in conserving water.

"In the United States we definitely are lucky to have it free of charge," she said. "Where in other countries it costs a crap ton and it is hard for them to even get filtered water. Also with our wasting of resources, allocation and wrongful distribution. I also conserve water when it comes to washing dishes, washing my hands — wherever I can."

According to Isaacson, in 2000, prior to the implementation of recycled water on South Campus and the recycled water cooling towers, SJSU used a total of nearly 196 million gallons.

"We made that recycled water," he said. "King (Library) toilets and urinals are going to be using recycled water within the next few weeks. We have been working on the King Library Recycled Water Project For Toilet Flushing for a really long time and we are about to go live with recycled water."

Isaacson said the project will save about 5 million gallons of water per year from the 142 million gallon total.

"That building (Dr. Martin Luther King Jr. Library) is dual-plumbed," he said. "It has got two sets of pipes to all the bathrooms — one set to bring fresh water for sinks and all of the types of uses and one set that is just for toilets and urinals."

Isaacson said he wants to make clear to people that the toilets and urinals are the only areas where re-



Water flows from the Silva Family Fountain in Cesar Chavez Memorial Arch Wednesday. SJSU uses 142 million gallons of water per year.

PHOTO: JACK BARNWELL | CONTRIBUTOR

cycled water will be used.

"Everywhere else, the water is drinking water safe," he said. "You don't need highly treated water for flushing — it is water that is recycled, it is acceptable and better than wasting other types of water."

SJSU is also working on a Conversion of the Irrigation to Recycled Water Project that he said will save SJSU about 39 million gallons of water per year.

According to Isaacson, the project is a conversion of nearly all ir-

In addition to the 142 million gallons, the central plant cooling towers for our cooling system uses recycled water and that uses about 20 million gallons per year.

JARED ISAACSON
FD&O Energy Analyst

rigation on campus.

"Most of the irrigation water will be recycled water from South Bay Water Recycling," he said. "By the time that is complete, we will have cut this down to nearly 45 percent below the 1999-2000 levels."

Undeclared freshman Francisco Alolong said water conservation is good to a certain point, and said he thinks the King Library Recycled Water project is a positive choice, "as long as the recycled water is clean."

He said he makes conserving water a priority in his life.

"Don't want to pay that bill," Alolong said. "It saves money."

Isaacson said SJSU's strategy in the future, once they have implemented most of the recycled water measures, will be to start cutting down on the campus potable water.

"This is mainly academic administrative buildings," he said. "And through water conservation measures, through more efficient fixtures like toilets, sinks and to definitely cut down on water use at the building level, that is our plan."

Isaacson said SJSU rarely runs the sprinklers during the day to try

to avoid evaporation losses.

"We hear things like 'Oh, we should have more water-efficient landscaping,' he said. "You know, 'do this and that' — that is a good point, but we feel that the best way to tackle it, the best bang for the buck, is to convert it to recycled water and then you are not using water that would be otherwise served for drinking water needs."

Shieh said she thinks SJSU's use of recycled water would be beneficial.

"If it is cost efficient then I totally agree with that," she said. "It would be great for the environment."

Isaacson said there is still a point to conserve and it is good to have good practices, but there is not a shortage of waste water.

What SJSU Can Do

"I mentioned the academic administrative buildings had the No. 1 use, and it is ultimately the use patterns," Isaacson said. "We understand that some of the fixtures are outdated, but it really depends on human behavior as to how much is used."

It is very important to conserve, and shut off faucets when they are not in use, he said.

"Another thing is leaky toilets that tend to run," Isaacson said. "We always appreciate when people put in those requests so we can identify issues. That wastes water."

He said people in campus housing should be aware of common sense when it comes to water use.

"I don't want to be the one to say 'Don't leave the water running while brushing your teeth,'" Isaacson said. "It is kind of beyond my scope of things here, but it is a common sense thing."

He said water use can also affect tuition and housing fees.

"For tuition is hard to say how that has an effect," he said. "But the more we use for general buildings, the more cost it is to the state, to the CSU and somewhere down the line that affects tuition prices."

In terms of rent, Isaacson said housing holds a lot of people and they use a lot of energy and water.

"That can be expected with a large, high-rise apartment building," he said. "But still, if people conserve, then in the end the housing department has a lower bill and the living cost could go down."

Senior psychology major Joseph Kozina said he thinks water conservation would be a great idea, "especially since now we are leaning toward a new green era, recycling and reusing all the resources we can."

"It is a great idea, personally, so I am all for it," he said.

HOW IS WATER USED ON CAMPUS?

SJSU uses 142 million gallons of water, approximately 215 Olympic-size swimming pools per year (not including South Campus, the Aquatic Center and the Event Center).

The SJSU plant and cooling towers use 20 million gallons per year of recycled water.

South Campus uses an additional 20 million gallons of recycled water per year to irrigate athletic fields and two million to three million gallons of water for facilities.

In 2000, the campus used nearly 196 million gallons of water per year.

The Dr. Martin Luther King, Jr. Library recycled Water for Toilets Project will save the campus about 5 million gallons of water per year.

The Conversion of the Irrigation to Recycled Water Project will save SJSU about 39 million gallons of water per year.

Projects reduced SJSU's water usage in 1999-2000 by 45 percent.



PHOTO: MELISSA SABLE | SPARTAN DAILY

The toilets and urinals at the Dr. Martin Luther King Jr. Library use recycled water. This dual-plumbing system is expected to save 5 million gallons of water per year.

